

SUPER TUNER III
CASSETTE CAR STEREO
WITH FM/AM ELECTRONIC TUNER

OWNER'S MANUAL

Thank you for purchasing this PIONEER product.
Before operating it, be sure to read this manual.



PIONEER®

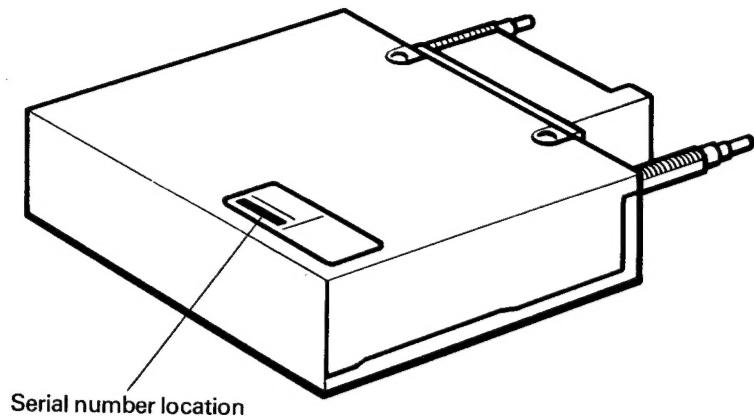
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Caution

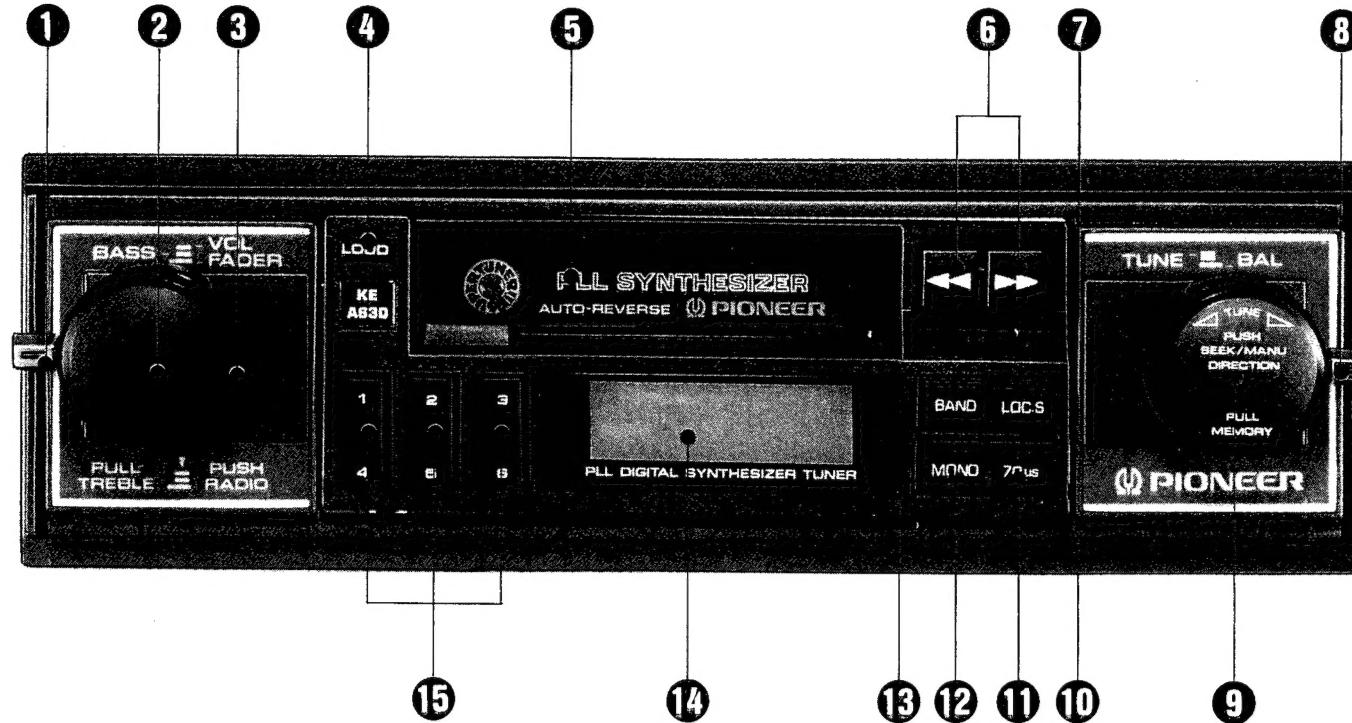
This product has been designed to meet FM/AM channel plan in North, Central and South America, and therefore there are cases where unsatisfactory signal reception takes place in other regions.

Please record the serial number of your unit in the space provided below and keep it as a permanent record. The serial number is marked on the bottom of the unit.

Serial No._____



When reading OPERATION section, refer to photo.



Features

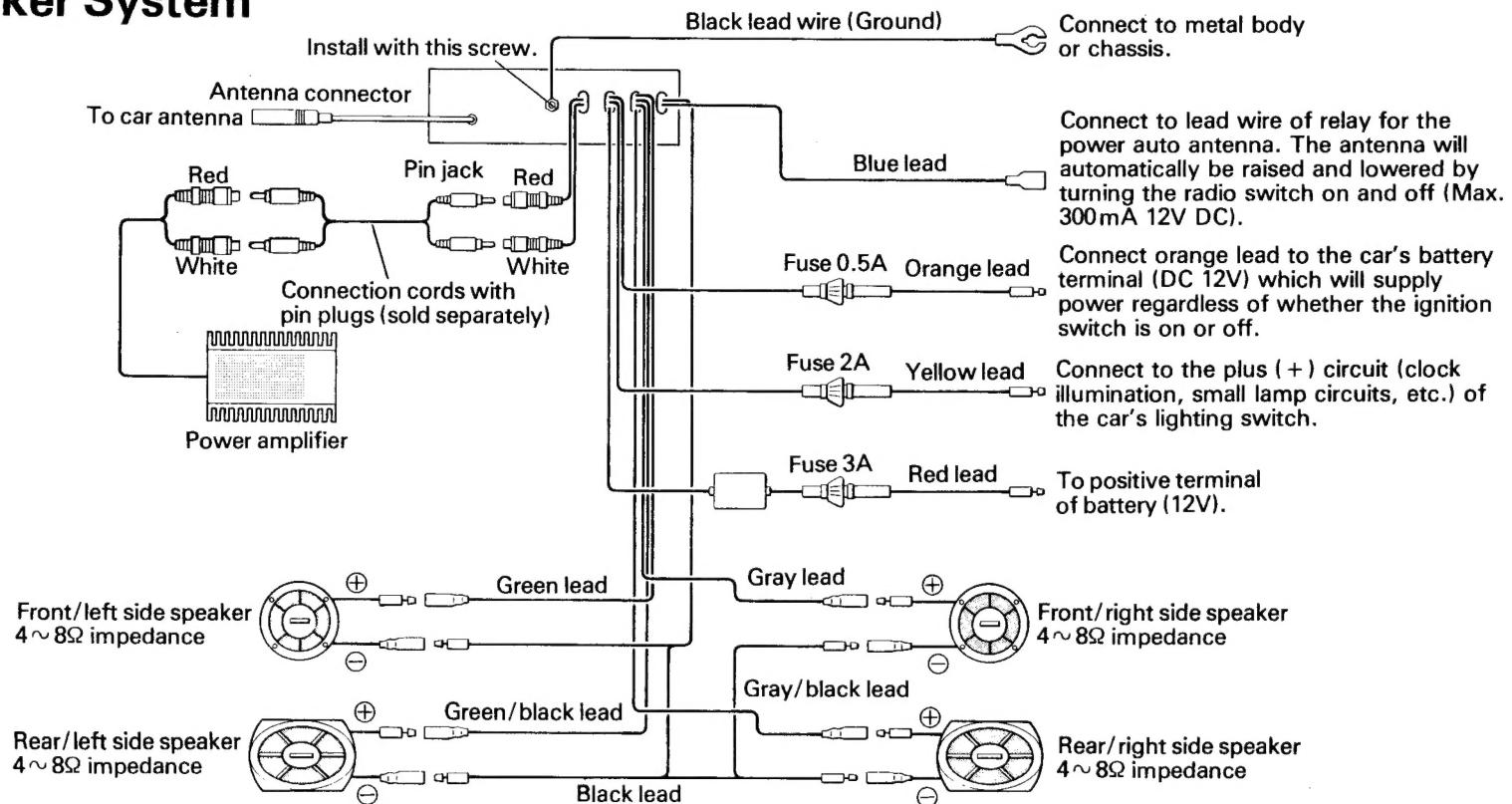
- The Supertuner III provides not only high sensitivity ($1.1\mu V$) but also reduced interference from strong electric fields. What's more, an FM muting function insures optimum FM reception to match FM wave variations. You'll always obtain the best sound quality for both stereo and monaural FM broadcast listening enjoyment.
- There are several methods of tuning in the station you want: preset tuning, seek tuning and manual tuning.
- An electronic preset system gives you a choice of 18 stations: 12 FM stations (six on FM1 and six on FM2) and six AM stations.
- Easy playback. Automatic reverse mechanism enables playback of both sides of a tape without manually turning it over and reinserting it.
- Metal and chrome tape capability. A hard permalloy head and a 70μ seconds tape equalization selector guarantees high-quality metal and chrome tape playback.
- Always keeps the tape taut. The ATSC (Automatic Tape Slack Canceller) system gets rid of tape looseness so apt to occur in cassettes.
- Controls for bass and treble will help you create superb sound field in your car together with the Loudness switch which enhances low and high frequency sounds at low sound volumes.
- Four-speaker system. Create a powerful sound space with four speakers: front, rear, right and left. Use the Balance control to adjust the right and left speaker volumes and the Fader control for the front and rear speaker volumes.
- Even if the ignition key is set to OFF with the cassette still loaded, the pinch roller is automatically disengaged to prevent any deterioration in the sound quality caused by deformation of the pinch roller. When the key is set to ON again, tape play starts.
- Operating in conjunction with the car's lighting switch, the front panel and each control button of this unit will be illuminated in light green, making it easy to operate, even at night.
- The latest technology has been used to make this unit as compact as possible so that it can be mounted in any make of compact car.

Connection

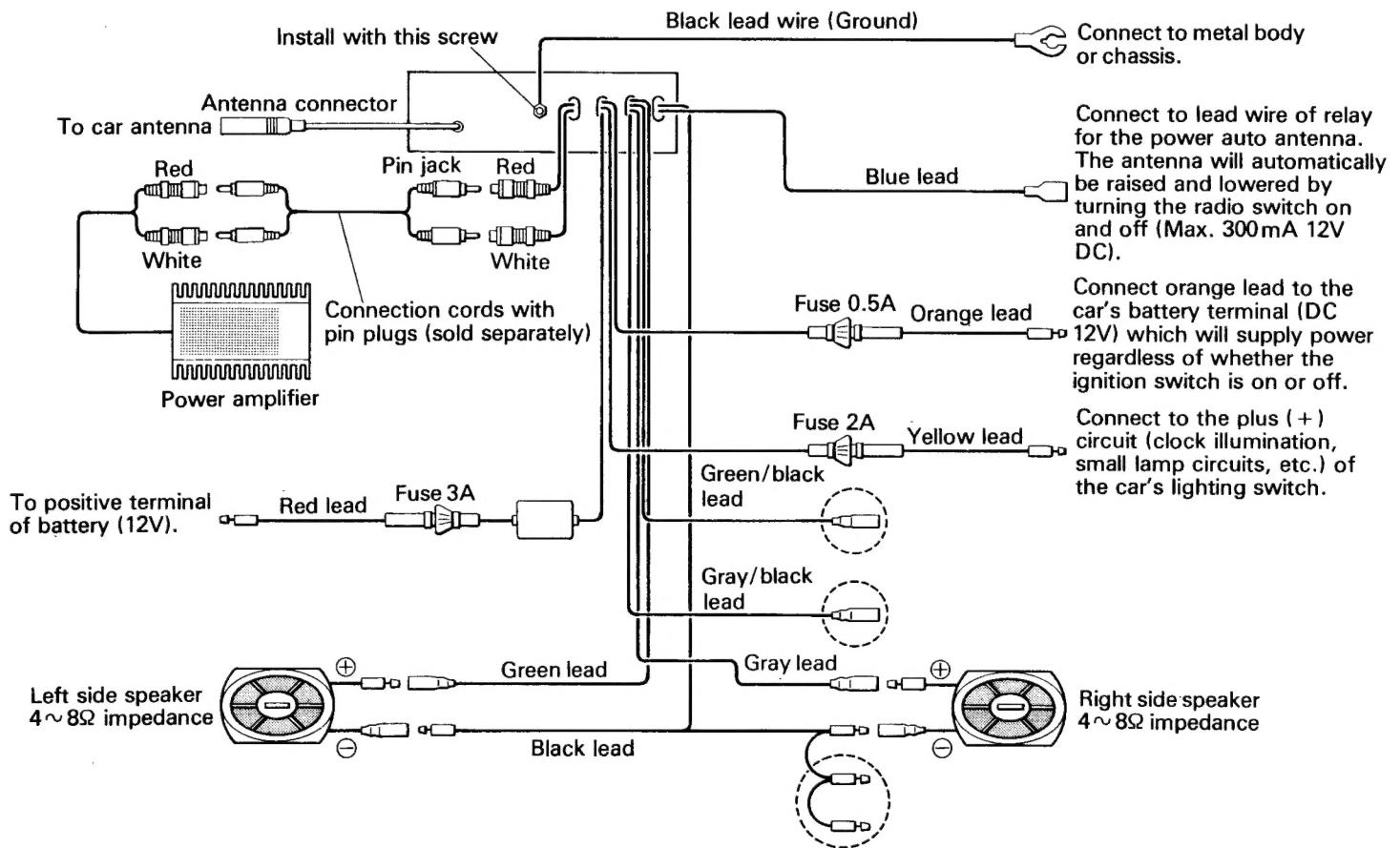
This unit can be operated with either a four-speaker system or a two speaker system. Refer to connection diagram to find out how to connect the speakers.

- Whenever replacing a fuse, be sure to replace with one of the same capacity.
- Connect the red lead for power supply after all other leads have been connected.

• Four-speaker System



• Two-speaker System



Caution:

Do not connect anything to the circled terminal. Cover the terminal with tape to prevent a short circuit.

Installation

This unit's shaft interval can be adjusted to two widths: 130mm or 147mm. Select the interval which fits the mounting space provided in your car and mount. The shaft interval of the product you have purchased is set to a 147mm width.

For mounting at a 130mm width, loosen the nuts holding the shafts and move the shafts to the inside.

When the center dot holes overlap as shown in the diagram, the shaft interval has been set to 147mm, and the shaft is in the center position. (Fig. 1)

If the shaft is now moved to the outside from the center position, the shaft interval is increased to 148mm. Moving it to the inside reduces the interval to 146mm.

By moving the shaft up or down it is possible to change the shaft position by $\pm 1.5\text{mm}$ from the center.

Note:

This unit is designed for mounting in the dashboard. In some cases it may be necessary to enlarge the opening. (Fig. 2)

Caution:

- Always use the screws, nuts and washers supplied. They have been provided to facilitate safe and secure installation.
- When installing the car stereo, be sure to secure the back of the unit with the strap provided.

How to Attach Front Panel:

- The front panel is designed to be attached to any kind of car. When the panel is too large, trim it by bending along V-groove, and file the edge smooth.

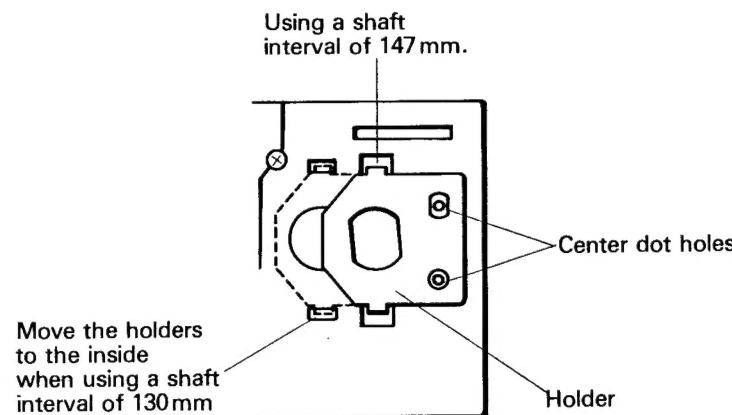


Fig. 1

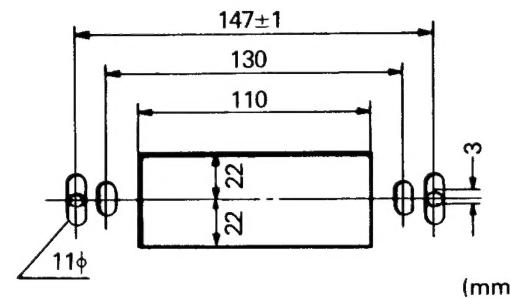
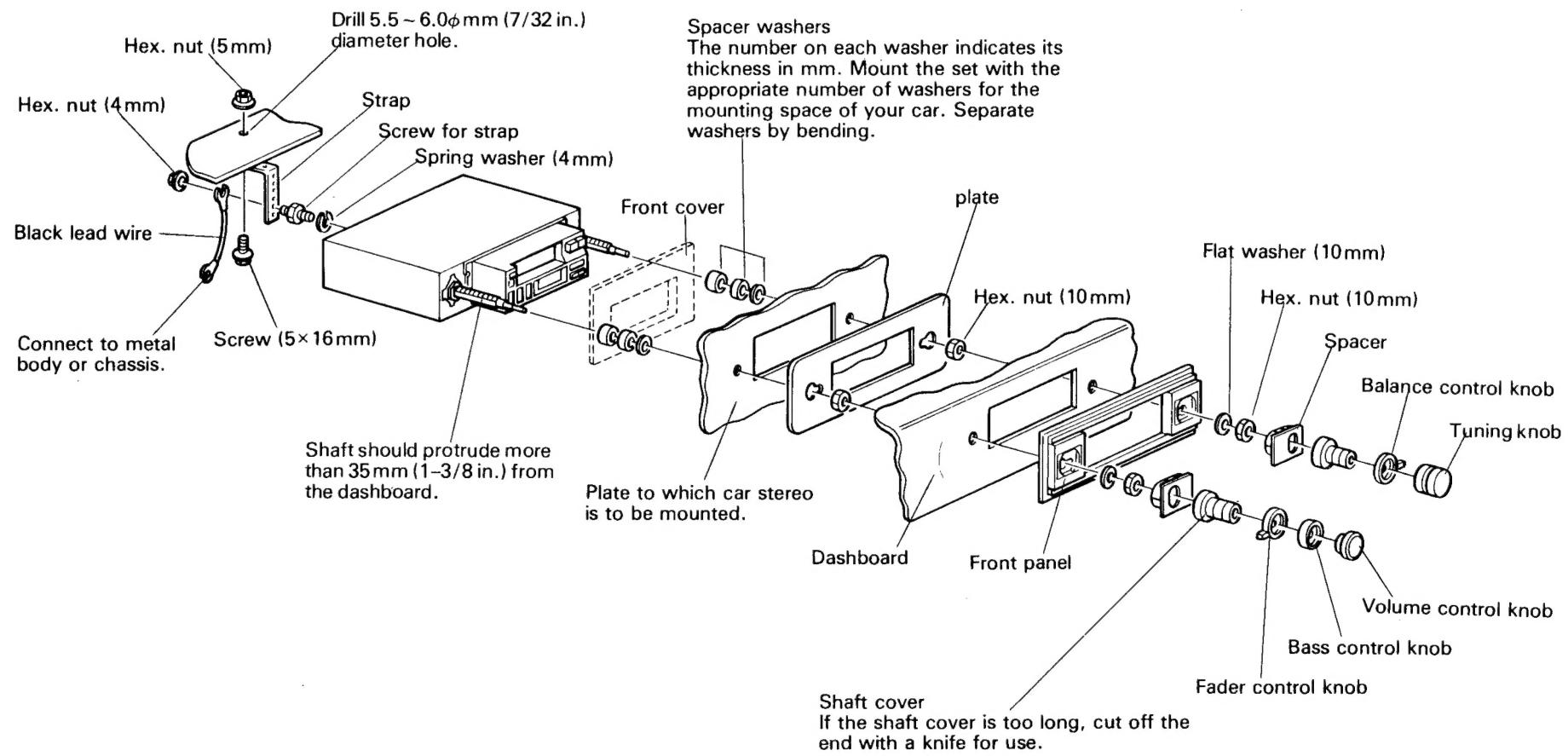


Fig. 2



Operation

Please refer to page 3. The numbers given in this section refer to the numbers in the photo.

To Listen to a Tape

1. Insert the cassette tape into the Cassette Insertion Slot **5** until it is locked in position with the exposed piece of tape on the right. (The unit will automatically switch to the tape mode when a cassette is inserted while the radio is on.) (Fig. 1)
2. Adjust the Volume **2**, Balance **1**, Bass **3**, and Treble **2** Controls. To adjust the treble, pull the Treble Control Knob **2** out towards you, and then turn it to the left and right until the proper setting has been obtained. If necessary, push the Loudness Switch **4**.
3. Push the Direction Change Button **9** to switch over from the side of the tape you are listening to now to the other side during play.
4. To fast forward the tape, depress the Fast Forward/Rewind Button **6** pointing in the same direction as the Direction Indicator **7** until it locks into position. To rewind the tape, depress the Fast Forward/Rewind Button pointing in the opposite direction to the Direction Indicator until it locks into position. To release the fast forward or rewind mode, simply depress the other button lightly. (Fig. 2)

To change from fast forward to rewind or vice versa, depress the other button directly until it locks and this will change the traveling direction of the tape. When the tape has been fully wound up in the fast forward mode, the fast forward mode is released and play begins automatically from the first program on the other side of

the tape. When the tape has been fully wound up in the rewind mode, the rewind mode is released and play begins automatically from the first program on the side you have been listening to.

5. To stop tape play or replace the cassette, fully depress both Fast Forward/Rewind Buttons **6** at the same time. (Fig. 3)

Note:

Due to the automatic tape tightening (tape guard) function, sound will not come out for a few seconds when cassette is inserted. Please do not try to eject the cassette during this time.

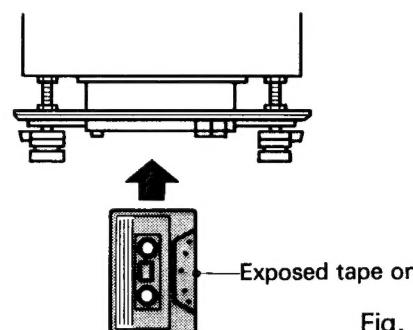


Fig. 1

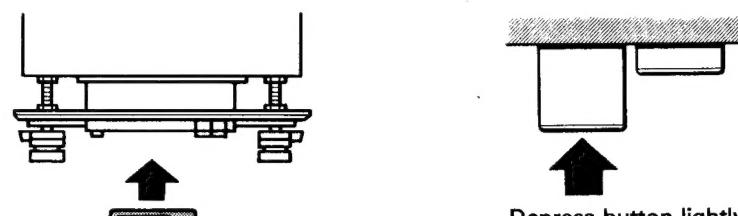


Fig. 2

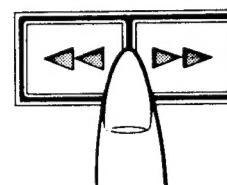


Fig. 3

Tape Select Button ⑪

Set this button to the position that corresponds to the type of tape you are using. (Fig. 4)

Fader Control ①

Adjusts front-to-rear balance of four speaker system. (Fig. 5)

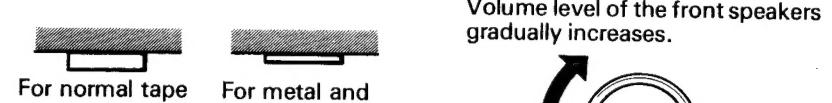
To Listen to the Radio

1. When the Radio Power Switch ② is pushed on, the radio frequency will appear on the Digital Display ⑭. (Fig. 6)
2. Press Band Select Button ⑩ to select the desired band and Digital Display ⑭ will illuminate to indicate the band.
3. Tune in desired station.

There are several methods of finding the radio station you wish to listen to.

Manual Tuning

By rotating the Manual Tuning Knob ⑨, you can move up and down the frequency range. Turn the knob clockwise for a higher frequency and counterclockwise for a lower frequency. This knob will not lock in place; it automatically returns to its original position when released. By holding the knob in the clockwise or counterclockwise position briefly be-



Volume level of the front speakers gradually increases.

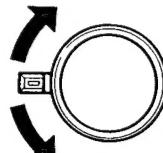


Fig. 4

Volume level of the rear speakers gradually increases.

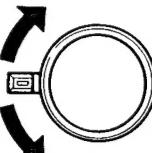


Fig. 5

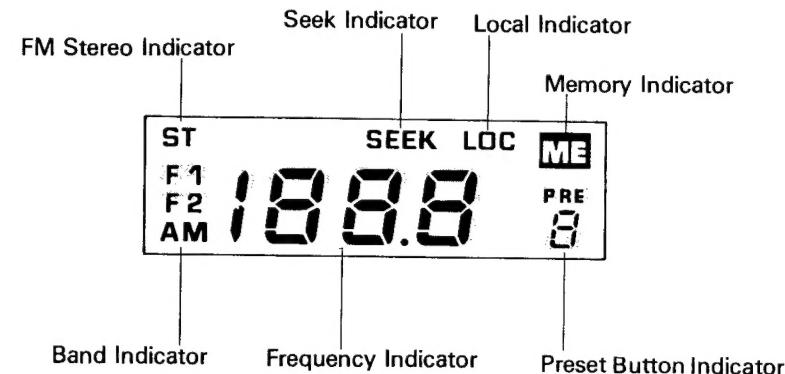


Fig. 6

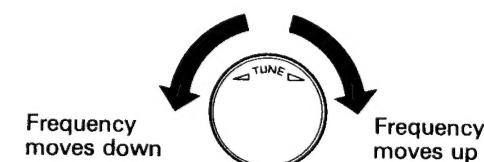


Fig. 7

fore releasing it, you can move the frequency band in 0.2 MHz units for FM and 10kHz units for AM. Keep the knob in position for more than 0.5 second to change frequencies rapidly. (Fig. 7)

Seek Tuning

Pressing the Seek Tuning Knob **⑨** will cause the Seek indicator to appear on the Digital Display **⑩**. Turning this knob to the right will automatically cause the reception of the next higher-frequency broadcast station. Turning this knob to the left will automatically cause the reception of the next lower-frequency broadcast station.

Programming Stations

You can preset a total of 18 stations (six FM1, six FM2 and six AM) using the three feather-touch Preset Buttons. One button can store two station each for FM1, FM2 and AM. To listen to an FM broadcast, set to either FM1 or FM2. Both FM1 and FM2 are in a frequency band between 87.9 and 107.9MHz.

1. Press Band Select Button **⑬** and Digital Display **⑭** will display FM1.
2. Tune to the desired station using Manual Tuning or Seek Tuning.
3. Pulling out the Memory Button **⑨** will cause the Memory Indicator (ME) to appear on the Digital Display **⑩**. The Memory Indicator will light up for five seconds, during which time you can select and press the desired Preset Number Button **⑯**. (Fig. 8)

When this has been completed, the number of the Preset Button selected will light up. The PRE display of the Preset Button Indicator will go out when Manual or Seek tuning

is used.

4. One station has now been memorized for one of the Preset Buttons. Repeat steps (2) and (3) for each of the remaining two Preset Buttons.
5. Switch Band Select Button **⑬** to FM2 and then AM, and repeat steps (2), (3) and (4).
- Preset Button Indicator PRE is not illuminated for Manual Tuning or Seek Tuning. (Number display is unchanged.)

Local Station Seek Switch **⑪**

At night when FM/AM station broadcast signals are too strong, press this switch when unwanted stations often come in when using Seek Tuning. (At this time, LOC in the Digital Display **⑩** illuminates). Tuner sensitivity is not affected after a station is locked on.

Press the switch again and LOC display goes out.

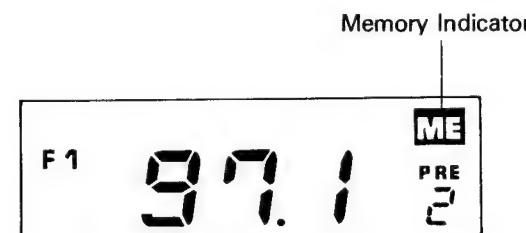


Fig. 8

FM Auto/Mono Select Button ⑫

This button will only function with an FM broadcast. (Fig. 9)

FM Auto: In most cases, this button should be left in this position. The following functions are automatically activated according to the strength of the incoming FM signal:

- Hi-Fi stereo quality is reproduced with a strong FM stereo signal.
- Reception is automatically controlled (stereo separation is gradually narrowed and high frequency is slightly attenuated) to reduce background noise as the incoming signal weakens. Eventually, reception is switched to monaural.

FM Mono: For monaural reception, regardless of the strength of the incoming FM signal or whether it is stereo or monaural.

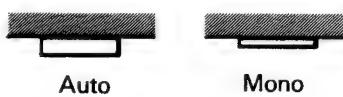


Fig. 9

Listening to Hi-Fi Inside Your Car

The majority of FM broadcasts are music programs. Compared with AM signals, FM signals have a wider dynamic range, are relatively immune to noise and provide virtually distortion-free music reproduction while also permitting stereo reception. However, because of the nature of FM signals, reception in a moving car, which must depend on an antenna, is accompanied by a host of problems.

- FM programs are broadcast locally. They cannot be heard satisfactorily in distant locations. To enjoy FM programs, it is important that you tune in to a station that is broadcasting in the locality through which you are traveling. (Fig. 1)
- FM signals travel in a straight line. Because they are reflected by such obstructions as buildings and mountains, reception may be cut when you pass through such areas with poor reception. (Fig. 2)
- FM signals are reflected regardless of their strength. Signals received directly from the transmitting antenna of the broadcasting station (direct waves) may mix with signals reflected by mountains or buildings (reflected waves) to cause multipath distortion. This distortion is heard as noise. (Fig. 3)
- FM reception while on the move.

The tuner receives the signals from the broadcasting station while the car is traveling. This means that it cannot easily select a location affording optimum reception. Because the car moves through strong and weak signal areas as well as through areas with mountains, buildings and other obstructions, the signals received are of varying quality. By learning to set the FM Auto/Mono Select Button properly in line with the strength of the signals for optimum reception, you can listen to programs with minimum noise and maximum quality.



Fig. 1

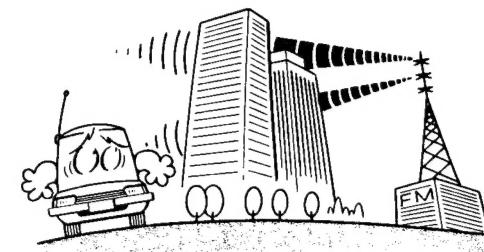


Fig. 2

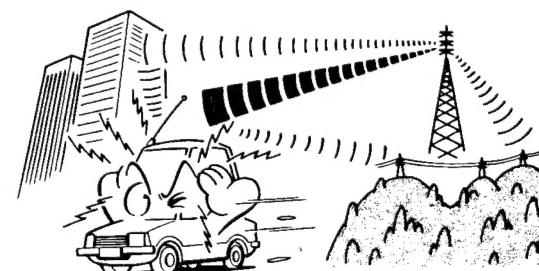


Fig. 3

Care and Maintenance

We recommend that tapes no longer than C-90 (90 minutes playing time) be used; C-120 tapes are extremely thin and their use should be avoided if at all possible.

The most common cause of sound defects is a dirty head. Signs of a dirty head include low volume, failure to reproduce high tones and skipping. (Fig. 1)

Clean the head carefully with a cotton applicator soaked in alcohol. If the unit is used for more than one hour every day, the head should be cleaned once or twice a month. If the unit is used very infrequently, you only need to clean the head every two or three months. (Fig. 2)

Do not oil revolving parts. (Fig. 3)

Do not place cassettes in the following areas: (Fig. 4) (Fig. 5)

- On the seat
- On top of the dashboard
- On top of the rear parcel tray
- Near the heater
- Near magnetic fields

Replace tapes in their plastic cases when not in use. (Fig. 6)

The memory circuit requires a constant power supply. If the car battery is replaced, the memorized frequencies will be erased since there will be a temporary disconnection of power. (Fig. 7)

If ever the unit does not function properly, contact your dealer or the nearest authorized PIONEER Service Station.

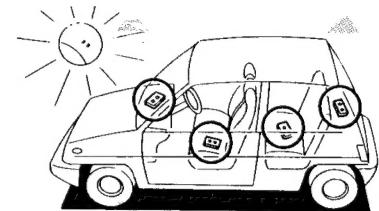
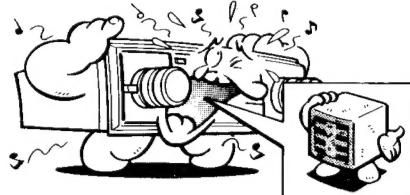


Fig. 1

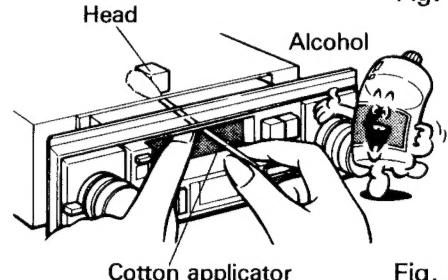


Fig. 2

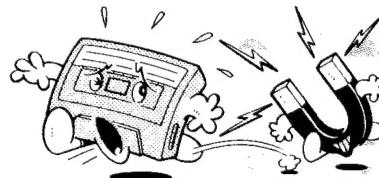


Fig. 5

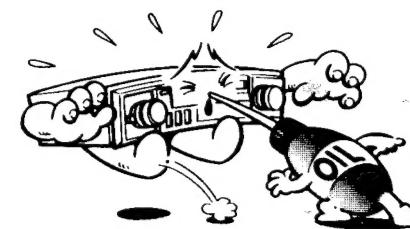


Fig. 3

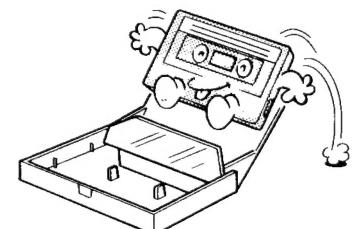
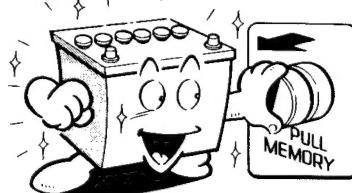


Fig. 6



Reset memory frequencies
whenever car battery has been
replaced.

Fig. 7

Points to be Checked Prior to Servicing

Minor operational troubles and incorrect wiring are often mistaken for a breakdown.
Check the following points before having your unit repaired.

Trouble	Cause	Remedy
• No tape or radio sound.	Improper power lead wire (red) connection.	Connect securely to plus circuit of battery.
	Power fuse has blown.	Replace with 3A fuse.
	Speaker cord disconnected.	Connect speaker cord securely.
• Left/right channel sound reversed with stereo tape play or stereo radio broadcasts.	Left/right channel output cords and speaker cords have been connected in reverse.	Check colors of cords reconnect correctly.
• Sound heard only through rear or front speakers with tape play or radio broadcasts using a 4-speaker system.	Fader control is turned too far toward one channel.	Rotate control and adjust rear/front sound.
• Poor tape sound quality.	Defective cassette tape.	Try another cassette tape. If sound quality is improved, cassette tape is defective.
	Dirty heads.	Clean heads.
• Noise with radio reception.	Antenna is not fully extended.	Pull out antenna to its full length and occasionally clean.
	Unit improperly grounded.	Ground the earth lead (black) securely to car body or other metal part.
• No radio sound.	Cassette tape is in operational mode.	Unit is in tape playing mode. Eject cassette in holder.
• Do not received programmed stations even when preset buttons are pushed.	Memory lead (orange) not connected properly.	Connect securely to car clock power terminal.
	Memory lead (orange) fuse shorted.	Replace with 0.5A fuse.

Specifications

General

Power source	DC14.4V (10.8~15.6V allowable)
Grounding system	Negative type
Max. current consumption	1.8A
Dimensions (chassis)	180(W)×50(H)×135(D) mm [7-1/8(W)×2(H)×5-3/8(D) in.]
(nose)	105(W)×42(H)×36(D) mm [4-1/8(W)×1-5/8(H)×1-3/8(D) in.]
Shaft interval	130 or 147mm (5-1/8 or 5-3/4 in.)
Weight	1.6kg (3.5 lbs.)

Amplifier

Continuous power output	2.9W per channel min. into 4 ohms, both channels driven 50 to 15,000Hz with no more than 5% THD.
Maximum power output	6W + 6W
Load impedance	4Ω (4~8Ω allowable)
Tone controls (bass)	±10 dB (100Hz)
(treble)	±10 dB (10kHz)
Loudness contour	+12 dB (100Hz), +7 dB (10kHz) (volume: -30 dB)

Tape Player

Tape	Compact cassette tape (C-30~C-90)
Tape speed	4.8cm/sec. (1-7/8 ips.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.13% (WRMS)
Frequency response	Metal: 50~16,000Hz (±3 dB) Normal: 50~12,000Hz, (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	52 dB (IHF-A network)

FM tuner

Frequency range	87.9~107.9MHz
Usable sensitivity	12 dBf (1.1μV/75Ω, mono)
50 dB quieting sensitivity	17 dBf (1.9μV/75Ω, mono)
Signal-to-noise ratio	70 dB (IHF-A network)
Alternate channel selectivity	70 dB (±400kHz)
Distortion	0.3% (at 65 dBf, 1kHz, stereo)
Frequency response	50~12,000Hz (±3 dB)
Stereo separation	40 dB (at 65dBf, 1kHz)

AM tuner

Frequency range	530~1,620kHz
Usable sensitivity	18μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±10kHz)

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.